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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/600,247	06/20/2003	K. Naresh Chandra Srinivas	14974US01	5550

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EXAMINER

HUYNH, KIM NGOC

ART UNIT	PAPER NUMBER
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2182

DATE MAILED: 09/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/600,247

Applicant(s)

SRINIVAS ET AL.

Examiner

Kim Huynh

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on RCE filed 8/12/05.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) 11-16 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-4, 10 and 17-20 is/are rejected.
7) ☒ Claim(s) 5-9 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. **(REPEATED)** This application contains claims 11-16 drawn to a nonelected invention. A complete reply to this action must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 1, it is unclear of the nexus between “a signal” from the requesting/responding node of lines 7-10 and “a signal” being selectively transmitted to/from the requesting/receiving node of lines 11-15. It is unclear if “a signal” in the second occurrence refers to the same signal of the first occurrence or if they are two separate and unrelated signals.

Correction/clarification required.

The following rejections are made based on the examiner's best interpretation of the claims in light of the 35 USC 112 rejection.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. **Claims 1-2 and 10 are rejected under 35 U.S.C. 102(e) as being anticipated by Lee et al. (US 6,498,766).**

Claim 1, Lee discloses a system for responding to requests (Fig. 4-8 and col. 6-7) comprising: requesting node (memory controller 41) for transmitting a request (COM, read/write request); a responding node (memory module 43) for transmitting a response DQ to the requesting node (memory controller 41); and logic (logic for controlling the operation of the memory controller as seen in Fig. 7-8) to receive an signal (DQSW) from the requesting node indicating the presence of the request; receive a signal (DQS) from the responding node indicating the presence of data (col. 5, ll. 48-53); said logic for selectively transmitting the indicating response signal (DQS) to the requesting node based on amount of time elapsed between receiving the signal (DQSW) from the requesting node and receiving the signal (DQS) from the responding node, wherein elapse time is within a predetermined amount of time (window L, see col. 6, ll. 14-30).

Claim 2, Lee discloses a system for responding to requests (Fig. 4-8 and col. 6-7) comprising: requesting node (memory controller 41) for transmitting a request (COM,

read/write request); a responding node (memory module 43) for transmitting a response DQ to the requesting node (memory controller 41); and logic (memory controller logic for controlling circuit 70/80, Fig. 7-8) for receiving a indicating signal DWSQ from the requesting/responding node indicating the presence of the request/data (depending READ or WRITE operation), selectively transmitting a signal DQS to the requesting node indicating presence of the response if the logic receives the indicating signal DSQW from the responding node 43 based upon the amount of time elapse between receiving the signal from the receiving node and receiving the signal from the responding node indicating the presence of data wherein the amount of time is within (less than) a predetermined period of time (window VDQSWIN1-2, Fig. 5-6).

Claim 10, Lee discloses the memory modules are DDR-SDRAM (col. 2, ll. 48-50).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 2, 4 are rejected under 35 U.S.C. 103(a) as being obvious over Jeddloh et al. (US 6,820,181) in view of Lee.

Claims 1-2, Jeddloh discloses a system for responding to requests (Fig. 2) comprising: requesting node (memory controller 110) for transmitting a request

(command/request is sent from the memory controller 110 to the memory module 130 via memory controller hub 126, col. 4, ll. 17-22); a responding node (memory module 130) for transmitting a response to the request (data is sent from memory device in response to the request, col. 5, ll. 43-49); and logic (for controlling memory hub) for transmitting a signal to the requesting node indicating presence of response (read response 210, col. 5, ll. 64-67), said logic receiving a signal from the responding node indicating the presence of the data (read data signal, col. 5, ll. 43-45) and receiving a signal from the requesting node indicating the presence of the request (memory request signals, col. 4, ll. 17-22) wherein the request is either a read command.

Jeddeloh does not specifically disclose that the in indicating signal is within a predetermined time interval. Lee disclose a system for enabling the high speed data transmission to avoid timing skew due increase of higher data rate in DDR-SDRAM by providing an indication signal within (less than) the time interval as discussed in the rejection above. Jeddeloh suggests that the issuing of the signals (request, response, indication) between the memory hub and the devices are at proper time and sequence to comply with high speed data communication (col. 4, l. 59 to col. 1). Therefore, it would have been obvious to one having ordinary skill in the art to utilize the teaching Lee to provide the indication of data presence within the time interval as taught by Lee in order to provide proper timing and sequence by avoiding timing skew in high speed transmission by avoid.

Claim 4, Jeddeloh discloses the memory controller further having a sequencer core for issuing the command and a queue for receiving data.

6. Claims 17 and 20 are rejected under 35 U.S.C. 103(a) as being obvious over Lee in view of applicant's admitted prior art (APA, paragraphs 8 and 31). Lee discloses a system for transferring data as discussed above except a printed circuit board connected to the memory controller, the memory module and the logic. However, as admitted by the applicant, it is typical for memory controller and memory module to be implemented as separate integrated circuits on the motherboard to conduct read and write transactions over a printed circuit connecting to the memory module. It would have been obvious to one having ordinary skill in the art to implement the controller 41 and the memory module 43 as separate printed circuits in typical motherboard integrated circuit implementation in order to take advantage of the available manufacturing process of circuit board.

Claim 20, Lee does not disclose the memory controller 41 having a sequencer core for issuing the read command and a queue for receiving the data. However, the examiner take official notice that such elements are essential part of a memory controller to generate command and receiving data and therefore would have been obvious to one having ordinary skill in the art to provide such elements in the memory controller of Lee for performing the intended functions.

Allowable Subject Matter

7. Claims 5-9 and 18-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the

limitations of the base claim and any intervening claims. Allowable subject matter is as indicated in the previous office action.

Response to Arguments

Applicant's arguments filed 4/24/04 have been considered but are moot in view of the new ground(s) of rejection necessitated by the amendment.

Applicant indicated that claims 2 and 17 have been amended to include similar limitations as amended in claim 1, however, it is noted that no changes to claims 2 and 17 were made.

Applicant argues that Jeddeloh does not disclose the claimed as amended, however, please note the teaching of the logic for transmitting the signal indicating the presence of the response taught by Lee as indicated by the office action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571) 272-
~~4147~~ 272-4147.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

A handwritten signature in black ink, appearing to read 'Kim Huynh', with a long horizontal stroke extending to the right.

Kim Huynh
Primary Examiner
Art Unit 2182

KH
9/2/05